

PATENT

Atty Docket No.: 200300184-1

App. Ser. No.: 10/645,210

IN THE CLAIMS:

Please find below a listing of all of the pending claims. The statuses of the claims are set forth in parentheses.

1. (Currently Amended) A method for sound signal classification, comprising:
receiving a sound signal;
specifying meta-data to be extracted from the sound signal;
dividing the sound signal into a set of frames;
applying a fitness function to the frames to create a set of fitness data;
selecting a frame from the set of frames, if the frame's corresponding fitness datum within the set of fitness data exceeds a predetermined threshold value;
extracting the meta-data from the selected frames; and
classifying the sound signal based on the meta-data extracted from the selected frames;
wherein the selecting includes selecting a frame for meta-data extraction, if the frame's fitness datum exceeds a greatest fitness datum within the set of fitness data minus a predetermined margin.

2. (Original) The method of claim 1:
wherein the sound signal is a speech signal.

3. (Original) The method of claim 1 wherein specifying includes:
specifying age range meta-data.

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4. (Original) The method of claim 1 wherein specifying includes:
specifying gender meta-data.

5. (Original) The method of claim 4 wherein selecting includes:
setting the threshold so that a ratio of frames selected to frames not selected is
between about 1:2 and about 1:3.

6. (Original) The method of claim 1 wherein specifying includes:
specifying accent meta-data.

7. (Original) The method of claim 1 wherein specifying includes:
specifying dialect meta-data.

8. (Original) The method of claim 1 wherein specifying includes:
specifying identity meta-data.

9. (Original) The method of claim 1 wherein dividing includes:
dividing the sound signal into a set of time frames.

10. (Original) The method of claim 1 wherein dividing includes:
dividing the sound signal into a set of equal length time frames.

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11. (Original) The method of claim 1 wherein applying includes:

calculating a signal strength of the sound signal frame.

12. (Canceled).

13. (Original) The method of claim 1 wherein extracting includes:

extracting the meta-data from the selected frames using a Multi-Layer Perceptron (MLP) neural network.

14. (Original) The method of claim 13 wherein extracting includes:

extracting the meta-data from the selected frames using a MLP neural network having an input layer with nodes corresponding to the sound signal's Mel-Cepstral components.

15. (Original) The method of claim 1 further wherein classifying includes:

assigning the sound signal to that meta-data class to which a largest number of the selected frames have been assigned.

16. (Original) The method of claim 1 further wherein classifying includes:

adding together each of the selected frame's confidence scores for each meta-data class; and

assigning the sound signal to that meta-data class having a highest total confidence score.

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17. (Original) The method of claim 1 further wherein classifying includes:
assigning the sound signal to that meta-data class having a statistically longest run-length.

18. (Currently Amended) A method for sound signal classification, comprising:
receiving a speech signal;
specifying meta-data to be extracted from the sound signal;
dividing the sound signal into a set of equal length time frames;
applying a fitness function to the frames to create a set of fitness data;
selecting a frame for meta-data extraction, if the frame's fitness datum exceeds a greatest fitness datum within the set of fitness data by minus a predetermined margin;
extracting the meta-data from the selected frames using a Multi-Layer Perceptron (MLP) neural network;
adding together each of the selected frame's confidence scores for each metadata class; and
assigning the sound signal to that meta-data class having a highest total confidence score.

19. (Currently Amended) A system for sound signal classification comprising [[a]]:
means for receiving a sound signal;
means for specifying meta-data to be extracted from the sound signal;
means for dividing the sound signal into a set of frames;
means for applying a fitness function to the frames to create a set of fitness data;

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means for selecting a frame from the set of frames, if the frame's corresponding fitness datum within the set of fitness data exceeds a predetermined threshold value, the means for selecting includes means for setting the predetermined threshold value so that a ratio of frames selected to frames not selected is between about 1:2 and about 1:3;

means for extracting the meta-data from the selected frames; and

means for classifying the sound signal based on the meta-data extracted from the selected frames.

20. (New) The method of claim 18 wherein selecting includes:

setting the threshold so that a ratio of frames selected to frames not selected is between about 1:2 and about 1:3.